

**Notice of Allowability**

Application No.

10/046,265

Examiner

Scott B. Geyer

Applicant(s)

ONO ET AL.

Art Unit

2829

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to an amendment, filed 3-29-04.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☒ The drawings filed on 18 December 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. This application is in condition for allowance except for the presence of claims 16-21 to an invention non-elected without traverse. Accordingly, claims 16-21 have been cancelled.

### **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee. The following amendment is being made to place the application in condition for allowance.

↙ The application has been amended as follows:  
Cancel claims 16-21.

### ***Allowable Subject Matter***

3. Claims 1-15 are allowed.

4. The following is an examiner's statement of reasons for allowance - -the prior art of record and to the examiner's knowledge does not teach or render obvious, at least to the skilled artisan, the instant invention regarding a photo-semiconductor module wherein a light-receiving flip-chip is attached to a circuit board and an optical fiber is

*fixed* to the mounting face or back face of the flip-chip. Through the applicant's comments to the non-final rejection and in conjunction with the applicant's specification and drawings, the examiner is interpreting "fixed" as meaning direct physical attachment. Claims 2-15 are dependent (directly or indirectly) on claim 1.

5. The following references are cited as being particularly relevant to the applicant's invention:

Sakurai et al. (6,623,178 B1) – See for example figure 8, wherein an optical fiber is mounted through a board to directly beneath a flip-chip optical module. However, the fiber does not physically touch the flip-chip. However, as described in column 1, lines 6-18, the optical fiber does not physically touch the flip-chip.

Parat et al. (6,435,733 B1) – see figure 6, wherein an optical fiber is mounted close to a flip-chip device; the optical fiber does not actually touch the flip-chip.

Tachigori (6,403,948 B1) – similar to that of Parat et al.; an optical fiber is mounted close to a flip-chip device, but does not actually touch it. See figures 7 or 9.

Tabuchi (5,764,832) – See for example figures 20 and 21; an optical fiber is mounted beneath a flip-chip module, but the optical fiber does not come into physical contact with the flip-chip.

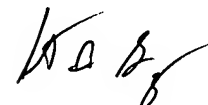
Frigo et al. (5,625,733) – See for example figure 3, wherein a flip-chip module is mounted to the end of an optical fiber. However, the flip-chip also utilizes spacers (302) to maintain physical separation between the flip-chip and the fiber.

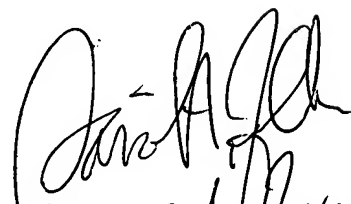
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott B. Geyer whose telephone number is (571) 272-1958. The examiner can normally be reached on weekdays, between 10:00am - 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571) 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 5/23/04  
SBG  
May 28, 2004

  
David A. Farnke  
6/1/04